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AN ACCOUNT OF THE
MEDICINAL VIRTUES
OF
MAGNESIA ALBA,
MORE PARTICULARLY OF
CALCINED MAGNESIA;

WITH
PLAIN DIRECTIONS FOR THE USE OF THEM.

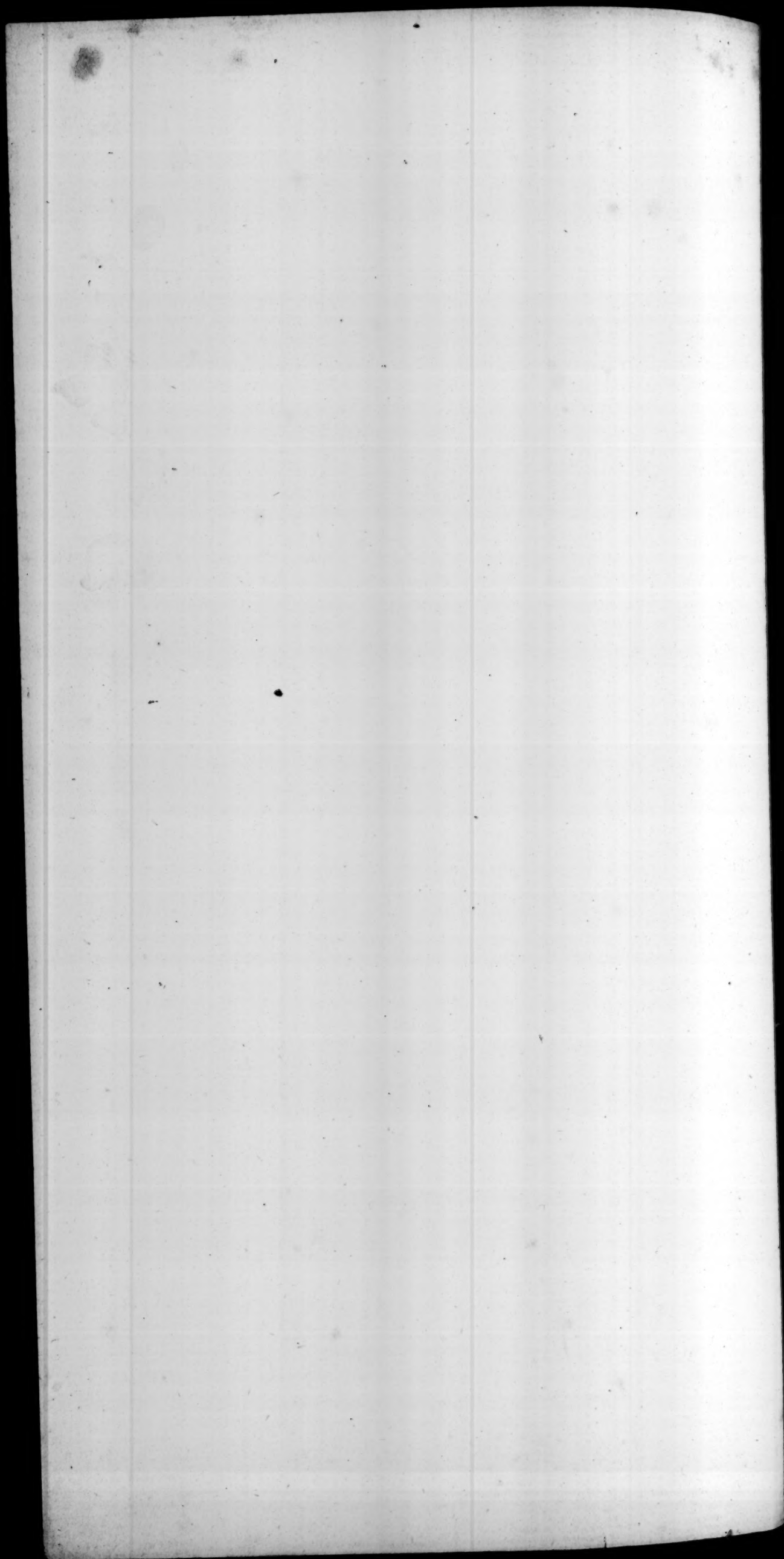
TO WHICH IS PREFIXED,
A CONCISE DETAIL OF THE INVENTION AND
GRADUAL IMPROVEMENT OF THESE MEDICINES.

BY
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MDCCLXXV.



AS A TESTIMONY

O F

FRIENDSHIP, GRATITUDE,

AND ESTEEM,

THE FOLLOWING PAGES

ARE INSCRIBED TO

MR. JOHN AIKIN,

SURGEON AT WARRINGTON,

B Y

HIS FAITHFUL AND

AFFECTIONATE FRIEND,

MANCHESTER,
4 June, 1775.

THOMAS HENRY.

*THE Reader is desired to correct the following errors of
the press with a pen.*

Page 12, line last in the note, for *others* read *other*.

Page 21, line 3 from the bottom, after *spoonsful* read *of water*.

Page 28, line 20, for *two* read *five penny-weights*.

Page 29, line last, for *beaded* read *beaped*.

AN ACCOUNT OF THE
MEDICINAL VIRTUES
OF
MAGNESIA ALBA, &c.

ABOUT two years since I published a small volume of *Experiments and Observations on various Subjects*, which also contained some account of the diseases in which Magnesia Alba is particularly useful, and a recommendation of that medicine in a state of calcination, as preferable, in many instances, to the uncalcined Magnesia. But as the remarks on this subject are intermixed with a number of others which are only interesting to medical or philosophical readers, I have been frequently requested to draw up a plain detail of the history and medicinal uses of Magnesia, for the use of those persons who may be purchasers of the medicine, and to whom the other part of my former publication would be entirely useless.

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Previous therefore to the recital of the virtues of Magnesia, it may not be improper to give a short history of the invention of this medicine, and of the gradual progress by which it has arrived at the degree of estimation in which it now stands.

To those mineral bodies which contain metallic earths, the earlier Chemists gave the name of Marcasites; and those earths, which were capable of attracting the acid from the atmosphere, and thereby forming salts, were termed Magnesia. The first preparers of Magnesia Alba, who procured it from the mother-ley of nitre, or liquor remaining after the crystallization of that salt, imagining it to be the proper absorbent of the nitrous acid, are supposed to have given it the name of Magnesia, and the epithet *Alba* appears to have been added as a distinction, on account of its superior whiteness.

Magnesia Alba was first introduced by the Jesuits at Rome, and the preparation of it was concealed by them, for some time, as a nostrum. But the secret, at length, was divulged, and its use became more general in several countries on the continent. It has been observed above that it was at first prepared from the mother-ley of nitre, and it was sometimes obtained by evaporating the liquor, and afterwards driving off, by means of a strong fire, the acid with which it was combined; and sometimes by precipitating the Magnesia by pouring in a sufficient quantity of an alkaline lixivium.

The powder, thus prepared, was not however pure Magnesia. A quantity of wood ashes and quick-lime are necessary to the crystallization of nitre, and, in consequence, the Magnesia, separated from the liquor remaining

maining after that process, contained a proportion of these substances. Besides, as but little nitre is prepared in Europe, the difficulty of obtaining the liquor in sufficient quantity was an impediment to the general preparation of Magnesia. That excellent Physician and ingenious Chemist, Hoffman,* was induced, from the similarity between *that* lixivium and the brine remaining after the crystallization of sea salt, to try whether Magnesia might not be precipitated from the latter. The experiment succeeded to his wishes, and he even found the powder, thus obtained, to be more purgative than the other. His animadversions and experiments on this preparation were published, and engaged the attention of physicians to a medicine so strongly recommended by that celebrated professor. Dr. Black, to whom we are obliged for many ingenious experiments tending to investigate the Chemical History of Magnesia, rendered the process still more easy by substituting the bitter purging salt, commonly known by the name of Epsom Salt, which is prepared from the last mentioned brine, instead of the brine itself, thereby enabling chemists to prepare the medicine, though at a distance from those places where sea-water is evaporated.

The process, notwithstanding, published by Dr. Black, was little known, and in some respects defective. Magnesia Alba was indeed sold in the shops, but ill prepared, coarse and adulterated. Scarcely any was to be met with, in a tolerable state of purity, except what was prepared by the late Mr. Glas of Oxford, who, having

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bestowed

* Hoffman, Vol. 4. p. 500.

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bestowed much attention on the subject, produced it greatly superior to any at that time vended. This gentleman however had not the generosity to divulge his process, but carefully concealed it as a profitable nostrum.

About sixteen years ago, I happened to reside in the neighbourhood of Mr. Glas; I had before that time frequently prepared Magnesia, but had never been able to make it equally fine as his, though far superior to what was commonly sold. My ambition was excited, I wished to attain to a like degree of perfection, and, after many trials I arrived at the desired point, and found, by repeated comparisons, that the Magnesia which I prepared, equalled that of Mr. Glas in every respect.

When I left Oxford, I made no other use of the discovery I had made than preparing Magnesia for my own shop, and freely communicating what I knew on the subject to my acquaintance. After some years it occurred to me that it might be of public utility to draw up an account of the method I had made use of, and to deliver it to the College of Physicians, who are the proper guardians of medicine in this kingdom. I accordingly transmitted my process to the College, who did me the honour of publishing it in their Transactions.*

Some time after the publication of the Volume of Transactions which contained my method of preparing Magnesia; Dr. Saunders, a very ingenious physician in London, whose extensive knowledge in chemistry has been displayed in several publications, mentioned in conversation, to Dr. Percival, the great improvement which

Magnesia

* Vide Medical Transactions, Vol. 2. p. 226.

Magnesia was capable of receiving by calcination. That by this means it might be deprived of those disagreeable qualities which occasioned flatulencies in the bowels of some tender people, and had brought the medicine into a degree of disrepute. My worthy friend, sensible how much I was interested in every discovery on that subject, communicated the information to me, and on trial of this process, I found the Magnesia improved to the utmost of my expectation; it was perfectly mild, and as free from causticity after as before calcination; it operated in half the dose, and occasioned none of those disagreeable sensations in the bowels which often follow the use of common Magnesia.

From hence I was insensibly led into a train of other experiments which have been since published,* and it is hoped may have contributed to explain the nature of Magnesia, and determine its medicinal properties more accurately than had hitherto been done. In the course of these experiments, it was observed that the *Calcined* Magnesia did not dissolve so *rapidly* in the vitriolic acid as the *uncalcined*, and being desirous of comparing some other with my own, and imagining I might depend on the purity of that vended under the name of Mr. Glafs, who had, some time before, sold his process to Mr. Delamotte, who then resided, as a stationer, at Weymouth; I purchased a box, from the agent for the sale of it in Manchester, that I might calcine it, and observe whether it acquired the same or different properties from that which I had prepared.

The

* Experiments and Observations on various Subjects, by Thomas Henry. London, 1773.

The result of these experiments, and the caution with which I proceeded, has been already delivered to the public; and the torrent of abuse, which has so plentifully flowed upon me in consequence of the discovery, is notorious. Conscious of my own integrity, I have stood undaunted at the attacks which malice and revenge suggested. The unchemical doctrines, the absurd inferences, the glaring contradictions, and illiberal language, with which the publications of my antagonists abounded, served only to convince the public of the badness of a cause so meanly, so ungenerously defended.

ON THE ACTION OF ABSORBENT MEDICINES IN GENERAL.

WHEN a mixture of animal and vegetable food has remained a short time in the stomach, a fermentation ensues, which is necessary to carry on the work of digestion, but which, when it becomes excessive, degenerates into disease. During this fermentation a considerable quantity of air is produced, and the alimentary mixture gradually tends to acidity.

To restrain the inordinate ferment in the stomach, nature has wisely given us the saliva or spittle, which has the property of preventing it from rising to a degree injurious to health. But where the saliva is either corrupted

rupted or insufficient in quantity, where the tone of the stomach is so weak, as to detain the aliment too long before it be pushed forward through the pylorus into the small intestines, or where the nature of the aliment itself is too much disposed to ferment; in all these cases the air, which is of the same nature as that discharged in the fermentation of vinous liquors, distends the stomach, and an obnoxious, and sometimes most austere acid is produced, which irritates the coats of that bowel, particularly that plexus of nerves which is diffused about its upper orifice, and occasions pain, sour belchings, vomiting and heart-burn.

As this was the most obvious kind of acrimony, it became the fashion, among the chemists of the seventeenth century, to ascribe the origin of almost all diseases to a redundant acid; and their practice consisted in giving to their patients alkaline salts and absorbent earths, such as chalk, calcined oyster shells, crab's claws, &c. and these were frequently administered in cases where, perhaps, remedies of a very opposite kind were requisite.

But when science became more founded on rational principles than on imaginary hypotheses, this practice lost ground, and the use of absorbents was confined to its proper bounds, to the correction of acidities when obviously prevailing in the first passages. And here indeed was a large field for the employment of these medicines, a field which, perhaps, daily became more spacious, as luxury more prevailed, and as the increase of arts and manufactures tended to enervate the people by inducing them to lead more sedentary lives.

Even

Even in this state of things, inconveniences arose from the property which all the common absorbents possessed of being astringent. For though they, for a time, corrected acidity, yet they produced such a degree of coctiveness, as in effect rather added to the disease they were intended to cure, and an absorbent earth of a different nature was a desideratum in practice.

Dr. Cadogan appears to have been the first physician who introduced the use of Magnesia Alba into these kingdoms. In his excellent treatise on the management of children, he recommended this powder as being more easily soluble in acids than the common absorbents, and as a most safe and efficacious purgative. The opinion of physicians was, for some time, suspended by the difficulty of obtaining it in a state of sufficient purity. I have used my utmost endeavours to remove that difficulty; and by the great improvement of calcining it, which was first suggested by Dr. Saunders, the medicine is rendered much more extensively useful.*

It may be necessary to premise, for the information of those readers who may not be acquainted with medical subjects, that alkaline salts and absorbent earths when united with acids, have their nature entirely changed, and form salts of a different kind, neither acid nor alkaline, which salts differ according to the different acids.

* I am obliged to Dr. Saunders, for his permission to insert the following note.

Dr. Saunders, in his public lectures both on the practice of physic and chemistry, has frequently recommended my process for preparing Magnesia, and has declared, that my Magnesia was the purest and most soluble of any others.

or alkaline employed. It has been too customary to consider the action of these medicines as solely confined to the absorption and neutralization of acids in the stomach and bowels; whereas, when thus united, they form a combination capable of being admitted into the lacteals, and from thence into the circulation, and thus acquire the property of acting by urine and by increasing the perspiration.

ON THE DISEASES IN WHICH

MAGNESIA ALBA IS USEFUL.

DURING the first months after the birth of a child, the state of the solids is lax, and the juices thin and dilute. These circumstances contribute to the more easy growth of the body; yet to prevent the tone of the parts from becoming too much relaxed, nature, with that providential care which pervades her whole creation, has given an acid to the stomach of young animals to strengthen their fibres and prevent too great a tendency to alkaline acrimony. But this, like her other provisions, sometimes exceeds the bounds which were intended, and degenerates into a disease of an opposite tendency to those it was designed to prevent. From the excess of acidity in the bowels of infants, the milk is coagulated, and, by oppressing the stomach, becomes the source of many diseases. The bowels are irritated,
and

and spasmodic contractions of the guts occasion severe gripings to the tender infant, and as the nerves are, at that period, exceedingly irritable, convulsions of some particular part or of the whole system are frequently the consequence. Green stools and sour vomitings discover this acidity in the bowels of young children so frequently, that one of the best writers on the subject of their diseases, attributes the origin of all infantile disorders to this cause. *

Children thus affected always lose their florid complexion and become pale and wan. Sometimes they declare the severe gripings which torment them, by the most piercing cries; and sometimes, when their stomachs are oppressed with coagulated milk or viscid phlegm, they lie in a state of stupidity, refusing all nutriment. Their stools and what they vomit shew evident signs of acidity, not only in the colour but the smell.

Under these circumstances it is too common a practice among nurses, neglecting the primary cause of the disease, to pour in hot cordials, and often to quiet the complainings of the infant by administering opiates, instead of attempting to correct and carry off the acidity which occasions the disorder. Remove the cause and the effect will cease. To this end, where the child vomits up phlegm or coagulated milk, or appears oppressed with them, it may be proper to clear the stomach by giving a grain or two of ipecacuanha, or a tea-spoonfull of a dilute solution of emetic tartar; either of which may be administered with great safety; and after the operation

* Harris de Morbis Infantum.

of the vomit, a small dose of Magnesia may be given and repeated occasionally so as to keep the body of the child gently open. It is a great recommendation of Magnesia, that its insipidity renders it more agreeable to infants than any other purgative; and it has this advantage over all the other absorbents, that it acts as an easy purgative, whereas they tend to bind and render the body costive; a state which should be studiously avoided during infancy, for a plentiful discharge by stool is always so favourable to the health of children, that we ought to be very cautious how we hastily check even the excesses which may sometimes happen in that evacuation. As the loosenesses of infants are generally occasioned by some acrid stimulus in the bowels, they are best cured by changing the nature of the offending matter and dislodging it from its seat. The method, therefore, which has been proposed above should first be used, before any astringents are called in to our aid.

The rash, commonly known by the name of the red gum, and the disorder called the thrush or frog, which so often affect children during the first months, may in general be cured by the same treatment. In the former, should the body be too loose, oyster-shell powder, or chalk may supply the place of Magnesia. In the latter, some topical application may be necessary; the following formula is very efficacious.

Take of egg-shells, cleared from the internal skin or membrane, dried before the fire, and reduced to a fine powder, and of sugar, each a quarter of an ounce, of borax in grains, mix them together. Let a small quantity of this be placed now and then on the child's tongue, that he may roll it about in his mouth.

It

It has been a common practice to give Magnesia to children as a preventive, and to mix it for this purpose with their food, in order to correct that disposition which milk and the farinaceous aliments have to turn sour. This however should be done with caution, for it is only the excess of acidity which is prejudicial to infants: some degree of it is necessary; and should we too officiously and entirely destroy, what we ought only to restrain within due bounds, we may create disorders of an opposite nature to those we have endeavoured to prevent, and instead of an acid, produce an alkalescent disposition in the first passages. Indeed, I fear that diseases have been more frequently created than obviated by the use of preventive medicines, and they should only be allowed in cases where the approach to disease is manifest. But when a child is in a healthy state, the best means to preserve him from a superabundant acidity, is to pay due attention to the regulation of his diet, to give him proper exercise, not to confine him too much in the foul air of hot unventilated rooms, to wash his whole body every day in cold water, and to rub him very well night and morning with a dry flannel, taking care that his stomach be not too full at the time when this friction is performed.

Nor would I advise parents to rely with too much security on the virtues of this medicine, where the disorders of their children are complicated or obstinate. The advice of the sagacious and distinguishing practitioner will then be necessary, to direct what method of treatment is to be pursued. Nor can I here avoid lamenting that the management of children, when diseased, is so often

often in the hands of nurses and ignorant women, from an absurd notion that their diseases are not proper subjects of medical investigation; when, in truth, there are none which require a clearer judgment, a quicker penetration, or a greater share of medical knowledge in the prescriber.

During the period between dentition and puberty, the diseases attendant on a lax fibre still continue, though not so predominantly as in the former stage; yet acescency is the manifest cause, or at least the concomitant of many of the complaints to which children are at this time liable. To this they are disposed, notwithstanding the change in their diet to a more alkalescent kind, by the great quantities of fruit, frequently crude and unripe, cakes, and other sweet and greasy food with which they are too often indulged. By these errors, their bowels are overcharged, their digestion impaired, and the aliment remaining too long in the stomach becomes sour, and occasions vomitings, head-achs, and other complaints which are thought to proceed from worms, and indeed are frequently attended with that disorder; as the crudities thus generated in the bowels serve as a nidus for these destructive vermin. Here likewise Magnesia may be of considerable advantage, as an alkaline purgative, neutralizing the offending acid, and at the same time promoting its discharge by stool. But if the stomach be overloaded with mucus, or undigested aliment, a gentle vomit ought to precede the exhibition of the Magnesia.

And even in a more advanced stage of life, persons of weak habits, and who lead sedentary lives, are often af-

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flicted

afflicted with indigestion, sour eructations, heartburn, vomitings, and costiveness. These disorders very frequently attend women during their state of pregnancy, and are sometimes almost instantly removed by the use of Magnesia. Doctor Watson* has published the case of a pregnant woman, who was afflicted with such severe vomitings as to bring on convulsions, hiccoughing, and violent pain at her stomach. What she brought up was acid, and so very acrimonious, as to inflame and excoriate her mouth and throat; and the great uneasiness she felt at her stomach, upon swallowing any liquor that had the least degree of acrimony, or was more than lukewarm, made it probable that the internal surface of the stomach was affected in the same manner. In this desperate situation, after variety of remedies had been tried in vain, the stomach was washed with unsalted mutton broth, till the liquor was discharged without any acid taste. Her pain was by this means abated, but in about two hours was apparently returning with the same violence as before. This ingenious physician then directed a drachm of Magnesia to be given in mutton broth, and to be repeated as often as her pain returned, without any regard to the quantity the whole might amount to, supposing her pain to continue severe. The first dose relieved her, and in three days she took three ounces of Magnesia; and in the next three days, two ounces more, by which time all her symptoms were removed. It is remarkable in this case, that an excessive purging was not

* Medical Observations and Inquiries, Vol. 3. P. 335.

the consequence of taking so large a quantity of Magnesia, where there was so much acid to neutralize it.

In bilious habits, where there is generally a disposition in the stomach contrary to acidity, Magnesia is usually esteemed to be improper, taken alone: but I am dubious whether this opinion is well founded, and many reasons for these doubts may be deduced from some experiments which have been recited in a former work. * However, where putrid bile is to be corrected and discharged by stool, very good purposes may, perhaps, be answered by taking the Magnesia, joined with a sufficient quantity of acid to neutralize it, while in a state of effervescence; or by swallowing the Magnesia and the acid, one immediately after the other, so as to produce the fermentation in the stomach: for thus the fixed air, with which the Magnesia abounds, being let loose, may powerfully correct the tendency to putridity in the contents of the primæ

* Henry's Experiments and Observations, p. 68, and seq.

By these experiments it appears that Magnesia, though remarkably septic to animal flesh, retards the putrefaction of bile, and restores sweetness to it when actually putrid: that these last effects are still more strongly produced by the Calcined Magnesia, which also powerfully resists the corruption of flesh: that some of the other absorbents prove antiseptic to bile; and, consequently, that the opinion of the universal septic property of the absorbent class of medicines, and of the impropriety of prescribing them in fevers of a putrescent type, may admit of some exceptions; for as the bile is by many supposed to be the great source of putrid diseases, ought not the antiseptics, which are prescribed in these cases, to be such as more particularly impede the corruption of this fluid, rather than that of flesh?

mæ viæ, and at the same time evacuate them downwards.

It is probable Magnesia may be of service in diseases of the skin. Several authors have attributed cutaneous eruptions, and indeed the antient chemists, as has been before observed, ascribed almost all disorders to the presence of an acid in the blood; whilst others absolutely deny that an acid can be admitted into the lacteals, or if admitted, exist in the blood in a state of acidity. In these cases, however, if an acid acrimony abounds in the stomach and bowels, with a costive habit, and pale complexion, Magnesia will be a useful corrector, and entering the circulation in the form of a mild neutral salt, may act as an excellent alterative; or, where there is no suspicion of acidity in the stomach, an equal quantity of cream of tartar may be mixed with the Magnesia.

HAVING thus given a cursory detail of the medicinal properties of Magnesia in its natural state, I shall now proceed to consider it in a state of calcination.

ON THE
MEDICINAL VIRTUESOF
CALCINED MAGNESIA.

THOUGH, in the preceding chapter, notice has been taken of the good effects arising from the fixed air of the Magnesia being let loose in the stomach, by drinking some acid beverage immediately after the powder, in diseases of a putrid tendency; yet in disorders of a different type, and in persons of flatulent habits, the discharge of this air by the acid of the stomach often occasions uneasy sensations in the bowels, inflating and distending them over-much, inducing griping pains, and above all, a sense of debility or sinking, which is not easily described. In order to obviate these inconveniences, I was induced, by the reasons mentioned in chapter first, to deprive the Magnesia of this part of its composition by calcination. By this process it lost seven twelfths of its weight, and though it produced no effervescence with acids, yet it had not acquired any degree of acrimony to the taste; and when thirty grains of it were diluted with a few spoonfuls, and swallowed, it occasioned no uneasy sensation in my stomach, nor sense of heat in my throat, proved nearly as aperient as a double

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quantity of uncalcined Magnesia, and operated without the least griping.

Thus Magnesia Alba is not only divested of the disagreeable qualities which have been alluded to, but acquires new properties which render it likely to answer some very important practical purposes.

Calcareous earths, alkaline salts, and Magnesia, being deprived of their air, attract it from every substance with which it has a smaller degree of affinity. The two former becoming highly caustic by the loss of their air, cannot be administered but in very small doses. But Calcined Magnesia, being absolutely divested of air, though not rendered acrimonious, and being able to absorb a large quantity of this elastic vapour, may act more powerfully than the whole tribe of carminatives, yet essentially differs from them in many respects. *They* contain a large quantity of air; *Magnesia* in this state is entirely free from it; *Aromatics* may be apt to ferment, and increase acidities; the *Calcined Magnesia* is incapable of effervescence, and corrects an acedent disposition in the gastric juices; the *former* constipate the belly, the *latter* is laxative.

From this property of Magnesia, when calcined, of absorbing air, it occurred to me that it would, of all others, be the most proper purgative for patients labouring under the stone who might be taking the lixivium saponarium, or soap ley, having the advantage over all the vegetable purgatives, which abound with air, and consequently have a tendency to render the caustic alkali mild and inert: I even flattered myself that it might coincide

incide in promoting the efficacy of that powerful solvent of the human calculus. Doctor Macbride's theory, that the lixivium acts by depriving the calculus of its fixed air, appears to be well founded; and Mr. Chittick, in the exhibition of his nostrum, which, notwithstanding all his arts to disguise it, is now known to have been the soap ley, kept his patients from every kind of diet abounding with air. We may therefore venture to recommend it, though not as a lithontriptic, being insoluble in water, yet as an assistant to the lixivium, by absorbing a part of that air in the primæ viæ, which would otherwise be attracted by the caustic alkali, and thereby render it incapable of acting on the calculus.

In all the diseases attended with an acrescent disposition in the first passages, in which Magnesia has, in another place, been recommended, the calcined powder may be given with superior advantages, as it will not produce any of those inconveniences which have been attributed to that medicine when uncalcined. Besides that it will act in a threefold capacity, viz. as an absorbent of air, and of acidity, and also as an easy purgative. I know several who could never bear to take the common Magnesia, with whom the calcined perfectly agrees. This medicine has been very serviceable in flatulent cholics; and even in gouty habits, joined with some warm aromatic, it has been found useful in correcting the very great flatulency which so much afflicts persons of this constitution; and the Cayenne pepper appears to be the most proper addition to it, on account of the small quantity of this spice that is necessary to make the Magnesia gratefully

gratefully warm to the stomach. Hypochondriacs, and those persons who, from leading studious and sedentary lives, labour under obstinate costiveness, and obstructions of the bowels, have generally recourse, for the cure of these complaints, to warm aloetic purgatives, and with propriety, where their habits are not too full, and disposed to inflammation: but in these cases, the use of such medicines frequently induces piles, and inflammatory irritation; whereas the Calcined Magnesia succeeds much better, correcting the acidity which is so prevalent in such patients, and removing constipation, without occasioning the disagreeable consequences of more stimulating medicines.

The Calcined Magnesia appears, in general, to be a preferable medicine for children to the uncalcined. It is an agreeable circumstance that so much smaller a dose of the former is necessary, as it operates in half the quantity that is requisite of the latter, and proves an effectual corrector of the flatulencies which give so much disturbance to the tender bowels of infants. I have administered it to children of but few days old, with safety and success, nor have I ever observed any disagreeable consequences from its use.

My ingenious friend Dr. Lettsom* has related the case of a woman, aged 43, who was seized with convulsive twitchings in the left side, accompanied with a most acute pain under the short ribs, shooting towards the region of the stomach. She had laboured under this disease

* Lettsom's Medical Memoirs, p. 139, et seq.

ease for about two years before her admission into the Dispensary in Aldersgate-street. The fits attacked her two or three times a day, and generally continued from half an hour to three hours. During the paroxysms, she suffered the most excruciating torture, till at length, nature being exhausted, she sunk into a state of stupefaction. In some of the fits, a spontaneous vomiting terminated them sooner, but no particular matter was ejected.

Besides bleeding, blistering, and laxative medicines, she had tried a great variety of remedies in vain. Dr. Lettsom, from the frequent eructations of wind, joined with the other symptoms, judiciously concluded that flatulence in the stomach and bowels principally excited this direful disease; and that besides opiates to quiet the convulsive motions, it was necessary to absorb the superabundant air that seemed detached in these viscera, and sometimes distended them sensibly to the touch.

An emetic was prescribed to be taken every week, and in order to absorb the fixed air which might be accumulated in the intestines, and to correct acidity, she was directed to take four ounces of lime water, and also two drachms of Calcined Magnesia three times a day, and one drachm of the Paregoric elixir was exhibited once a day at least.

By the use of these medicines, and due attention to her diet, she experienced ease the first week; the fits gradually diminished in violence and in frequency, and in two months nearly subsided; at which time the elixir was omitted. She continued to take Calcined Magnesia and lime-water for a week afterwards, and since she was discharged

discharged from the hospital, the Doctor assures us that her health has remained uninterrupted, without the use of any medicine.

Calcined Magnesia is a medicine very well adapted to counteract the costiveness occasioned by the use of the Bath, Tunbridge, and Bristol waters; and may be a convenient substitute for the saline purging waters, being taken in small doses, washed down with a large draught of pure water, or, in cases where acidity does not prevail in the stomach, of lemonade or any acidulated liquor.

As a preparative for the small-pox, few medicines can be given to infants preferable to Calcined Magnesia. And from its antiseptic property, or power of resisting the putrefaction of flesh and of bile, it seems well deserving the attention of practitioners, as a purgative in putrid diseases.

GENERAL DIRECTIONS

RELATIVE TO THE

DOSES OF MAGNESIA.

THE following general directions may be useful, in respect to the doses of Calcined Magnesia. But it is to be remembered, that a double quantity of the Uncalcined Magnesia will be requisite to produce the same effects.

A child during the month may take from three to six grains of Calcined Magnesia; and the dose may be repeated, at proper intervals, till a sufficient number of stools be obtained.

Children during the time they are cutting their teeth may take five, ten, or twenty grains of the Calcined Powder, in proportion as it is intended to act as a purgative, or only as an alterative. As they advance in years, the dose must be increased accordingly.

The doses for adults, as well as for children, must differ greatly, according to their different constitutions, or the degree of acidity in their stomachs. It may be proper therefore to begin with smaller doses, and to increase them if necessary. In general, twenty or thirty grains will

28 GENERAL DIRECTIONS.

will be sufficient to procure a gentle purging for an adult person, who is easily moved; but much larger doses may be necessary for the more robust. While acidity prevails in the stomach, and occasions costiveness, heartburn, and vomiting, the dose is only to be regulated by the effects which the medicine produces.

The Magnesia is much more agreeable, when mixed well with the vehicle in which it is taken; to this end, only such a quantity of water should be added to it, at first, as may be necessary to reduce it to a paste, which should be rubbed till it be quite smooth, and then gradually diluted.

Water sweetened with sugar, milk and water, or almond milk, are proper liquids in which to mix the powder. To children it may be given mixed with their food, in such a manner as not to be perceived by them.

As most people are now provided with scales and weights for weighing gold, it may be proper to mention the proportions which these weights bear to those used by the apothecaries. Two penny-weights are equal to 120 grains, or two drachms; and the grain weights, each of which contain as many grains as there are round marks on the surface, are exactly similar to those by which medicines are weighed. The money weights which are marked with the names of the several coins, bear the following proportions, viz. that marked one guinea, contains 129 grains, or 9 grains above two drachms; that marked 10s. 6d. sixty-four grains and a half, or four and half grains above one drachm, &c.

So

GENERAL DIRECTIONS. 29

So that the quantities of Magnesia to be given may thus be accurately determined.

But where weights are wanting, the quantity may be measured in a tea-spoon; one of a moderate size contains about six grains, upon a level with the edge of the spoon; and when headed up, about twenty grains.

T H E É N D.